

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 93-142  
NPDES PERMIT NO. CA0038547

WASTE DISCHARGE REQUIREMENTS FOR:

DELTA DIABLO SANITATION DISTRICT  
ANTIOCH, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The Delta Diablo Sanitation District, hereinafter called the Discharger, submitted a Report of Waste Discharge dated December 30, 1992 for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).
2. The Discharger owns and operates the Delta Diablo Sanitation District wastewater treatment plant, located off the Pittsburg-Antioch Highway in north-west Antioch, Contra Costa County.
3. The facility has capacity to provide secondary level treatment for 16.5 million gallons per day (MGD) of domestic, commercial, and industrial wastewater from the cities of Antioch, Pittsburg, and the unincorporated areas of Bay Point which includes Shore Acres. The average dry weather flow for 1993 at the treatment plant was 9.61 MGD. The discharger has proposed to increase the permitted flow from 13.5 MGD to 16.5 MGD.
4. The treatment facility consists of screening, grit removal, primary clarification, biotowers, activated sludge, secondary clarification, disinfection and dechlorination. The treated effluent is discharged via a deep water outfall into New York Slough, a water of the United States (Latitude 38 deg., 01 min., 40 sec.; Longitude 121 deg., 50 min., 14 sec.). The effluent generally receives an initial dilution of at least thirty to one.
5. Sludge is thickened by dissolved air flotation thickeners, anaerobically digested, and dewatered by centrifuge before it is hauled offsite for application to agricultural land.
6. The discharge is presently governed by Regional Board Order No. 88-030, which allows discharge into New York Slough.
7. The discharger has implemented and is maintaining an EPA approved Pretreatment Program in accordance with the Regional Board Order No. 89-179.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on September 16, 1992, and the State Board approved the revised Water Quality Control Plan on April 27, 1993. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.
9. The Regional Board amended the Basin Plan on October 21, 1992 to adopt a site-specific objective of 4.9 ug/l for copper for San Francisco Bay, and on June 16, 1993 to adopt a wasteload allocation for copper (Resolution 93-61). The mass loading limit for copper was developed to implement the site-specific concentration limit by requiring reductions in copper mass discharged from riverine, non-point discharges, and municipal and industrial dischargers throughout the San Francisco Bay-Delta Estuary. The State Board has not approved the October 21, 1992 and June 16, 1993 Basin Plan amendments as of the date of this permit.
10. If the State Board approves a copper wasteload allocation, this permit will be amended to include a copper mass loading limit and a copper reduction requirement. The copper effluent limitation specified in this permit is based on the revised Basin Plan approved by the State Board.
11. The beneficial uses identified in the Basin Plan of New York Slough and contiguous water bodies are as follows:
  - a. Municipal and Domestic Supply
  - b. Agricultural Supply
  - c. Industrial Process and Service Supply
  - d. Groundwater Recharge
  - e. Navigation
  - f. Water Contact Recreation
  - g. Non-contact Water Recreation
  - h. Ocean Commercial and Sport Fishing
  - i. Wildlife Habitat
  - j. Preservation of Rare and Endangered Species
  - k. Fish Migration
  - l. Fish Spawning
  - m. Estuarine Habitat
12. The capacity of the treatment plant was increased from 13.5 MGD to 16.5 MGD by upgrading the existing biotowers, and adding an aeration basin, a chlorine contact tank, an anaerobic digester, and a dissolved air flotation thickener. To support a request for an increase in discharge flow from 13.5 to 16.5 MGD, the discharger completed an Environmental Impact Report (EIR) in April, 1988 for expansion of the facility up to 25.7 MGD.
13. This Order allows for discharge of up to 16.5 MGD average dry weather flow, providing that the discharger submits adequate documentation, for the Executive Officer's approval, of the facility's capacity and reliability.

14. The anti-degradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution No. 68-16 have been considered for the increase in discharge of treated wastewater to New York Slough. Impacts from increased mass loadings of biochemical oxygen demand and total suspended solids are not anticipated to significantly degrade the quality of water in New York Slough or contiguous areas. Increased mass loadings of conservative pollutants such as heavy metals and selenium may ultimately contribute to the overall accumulation of these constituents in the San Francisco Bay. Such overall accumulation may have adverse impacts on beneficial uses of these waters.
15. In order to minimize the increase in mass loading of the pollutants as a result of the flow increase, this permit requires the discharger to implement a source control and pollution prevention program which, at a minimum, incorporates currently available technologies and practices. Providing that the discharger maintains consistent compliance with the effluent limitations prescribed in this Order, and makes positive efforts towards minimization of pollutants at the source, the impacts on receiving water quality due to the flow increase should be insignificant. Therefore, the flow increase is consistent with the anti-degradation policy.
16. The 1986 Basin Plan initiated the Effluent Toxicity Characterization Program (ETCP) in which dischargers were required to monitor their effluent using critical life stage toxicity tests to generate information on toxicity test species sensitivity and effluent variability to allow development of appropriate chronic toxicity effluent limitations. The 1991 State Board Inland Surface Waters Plan established an ambient water quality objective outside discharge mixing zones of no chronic toxicity, expressed as an objective of 1 TUC (chronic toxicity unit). It also required that publicly-owned treatment works with a pretreatment program must have a chronic toxicity effluent limitation.
17. The discharger completed the Screening Phase of the ETCP in March, 1992, and began the Variability Phase of their effluent testing in May, 1992. To date, the results of the Variability Phase testing have not warranted the initiation of a Toxicity Identification Evaluation. The discharger is currently required to complete the Variability Phase testing, and will commence routine compliance monitoring in July, 1994. Results of the variability phase testing will be considered in determination of monitoring frequency.
18. The Basin Plan specifies marine and fresh water effluent limitations which are to be applied to a discharge for selected toxic pollutants. Whether marine or fresh water limitations are applied depends upon the unique salinity characteristics of the receiving waters. The receiving waters in New York Slough in the vicinity of the discharge are fresh, therefore, the effluent limitations specified in this order are based on fresh water quality objectives. The outfall is located in waters that are tidally influenced; however, the marine waters do not generally reach the discharge location. The marine effluent limitations are, in most cases, higher than the fresh limitations. For those eight constituents that have higher fresh limitations (copper, cyanide, endosulfan, nickel, phenol, silver, zinc, and tributyltin), the dilution of effluent currently

provided by the receiving waters is sufficient for reduction of the constituent concentrations prior to reaching any marine waters.

19. A review of the dischargers monitoring data indicates that the discharger is currently unable to consistently comply with the monthly average Basin Plan limit for mercury. This Order specifies an interim limit for mercury, and a time schedule for compliance with the Basin Plan limit. In order to make efforts to achieve compliance, the discharger is required to implement an aggressive source control program for mercury which, at a minimum, incorporates currently available technologies and practices.
20. Federal Regulations for stormwater discharges were promulgated by the United States Environmental Protection Agency on November 16, 1990. The regulations [40 Code of Federal Regulations, Parts 122, 123, and 124] require specific categories of industrial activities which discharge storm water associated with industrial activity (industrial storm water) to obtain an NPDES permit and to implement Best Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.
21. The discharger has proposed to direct storm water flows to the unlined emergency retention basin for the treatment plant which is located immediately to the north of the facility. Following collection in the retention basin, storm water flows are to be pumped to the plant headworks to be treated along with the wastewater discharged to the treatment plant. These storm water flows constitute all industrial storm water at this facility and consequently this permit regulates all industrial storm water discharge at this facility.
22. An Operation and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.
23. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.
24. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
25. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Delta Diablo Sanitation District (Discharger) shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant is prohibited.
3. The average dry weather flow discharge shall not exceed 13.5 MGD until the Executive Officer has approved the report submitted pursuant to Provision E.9 of this Order. Following approval of this report, the average dry weather flow discharge shall not exceed 16.5 MGD. The average dry weather flow shall be determined over three consecutive dry weather months each year.
4. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the state are prohibited.

B. EFFLUENT LIMITATIONS

1. The effluent discharged to the outfall shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instantaneous Maximum</u>
a. Biochemical Oxygen Demand (BOD <sub>5</sub> , 20°C)	mg/l	30	45	60	--
b. Total Suspended Solids	mg/l	30	45	60	--
c. Oil and Grease	mg/l	10	--	20	--
d. Settleable Matter	ml/l-hr	0.1	--	--	0.2
e. Total Chlorine Residual	mg/l	--	--	--	0.0 [1]

[1] Requirement defined as below the limit of detection in standard test methods.

2. pH: The pH of the effluent shall not be less than 6.0, nor greater than 9.0.
3. Total Coliform Bacteria: The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 23 MPN/100 ml; and, any single sample shall not exceed 500 MPN/100 ml.

4. 85 Percent Removal, BOD and TSS: The arithmetic mean of the biochemical oxygen demand (five-day, 20°C) and total suspended solids values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period.

5. Effluent Toxicity

- 5.1 Acute Toxicity: The survival of organisms in undiluted effluent shall be an 11-sample median value of not less than 90 percent survival, and a 90 percentile value of not less than 70 percent survival. The 11-sample median and 90th percentile effluent limitations are defined as follows:

11-sample median: If five or more of the past ten or fewer samples show less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limit;

90th percentile: If one or more of the past ten or fewer samples show less than 70 percent survival, then survival of less than 70 percent on the next sample represents a violation of the effluent limitation.

- 5.2 Chronic Toxicity: The discharge governed by this permit is classified as a deep water discharge. The chronic toxicity effluent limitation is based on a dilution ratio of 10:1. The effluent from the treatment plant as discharged, shall meet both of the following chronic toxicity limitations, beginning in July, 1994

- a. an eleven sample median value<sup>1</sup> of 10 TUC<sup>2</sup>; and,  
b. a 90 percentile value<sup>3</sup> of 20 TUC<sup>2</sup>.

<sup>1</sup> A test sample showing chronic toxicity greater than 10 TUC represents consistent toxicity and a violation of this limitation, if five or more of the past ten or less tests show chronic toxicity greater than 10 TUC.

<sup>2</sup> A TUC equals 100/NOEL. The NOEL is the no observable effect level, determined from IC, EC, or NOEC values. These terms and their usage in determining compliance with the limitations are defined in Attachment A of this Order. The NOEL shall be based on a critical life stage test using the most sensitive test species as specified by the Executive Officer. The Executive Officer may specify two compliance species if test data indicate that there is alternating sensitivity between the two species. If two compliance test species are specified, compliance shall be based on the maximum TUC value for the discharge sample based on a comparison of TUC values obtained through concurrent testing of the two species.

<sup>3</sup> A test sample showing chronic toxicity greater than 20 TUC represents consistent toxicity and a violation of this limitation if one or more of the past ten or less samples shows toxicity greater than 20 TUC.

6. TOXIC SUBSTANCES EFFLUENT LIMITATIONS: The discharge of effluent containing constituents in excess of the following concentration limits is prohibited: [Units for all limits are in ug/l]

TABLE 1

<u>Constituent</u>	<u>Monthly Average</u>	<u>Daily Average</u>	<u>Interim Limit [5]</u>
Arsenic	50	200 [4]	
Cadmium		10.7	
Chromium (VI) [1]		110	
Copper		78	
Lead [3]		23	
Mercury	0.084	24	1.0 [5]
Nickel [3]		71 [4]	
Selenium [3]		50	
Silver		23 [4]	
Zinc [3]		1,055	
Cyanide [2]		25 [4]	
TCDD Equivalents	1.3E-07		
PAHS	0.028		
Tributyltin	0.2	0.4	
1,2 Dichlorobenzene	27,000		
1,3 Dichlorobenzene	4,000		
1,4 Dichlorobenzene	99		
Benzene	3.4		
Chloroform	1,000		
Dichloromethane	46		
Halomethanes	1,000		
Toluene	100,000		
2,4 Dichlorophenol	3		
2,4,6 Trichlorophenol	3.4		
4-Chloro-3-Methylphenol	30,000		
Fluoranthene	420		
Hexachlorobenzene	0.0066		
Pentachlorophenol	2.8	95	
Phenol	3,000		
Aldrin	0.0013		
A-BHC	0.039		
B-BHC	0.14		
Chlordane	0.00081	0.043	
DDT	0.0059	0.01	
Dieldrin	0.0014	0.019	
Endosulfan		0.056	
Endrin		0.023	
G-BHC (Lindane)	0.19	0.8	
Heptachlor	0.0016	0.038	
Heptachlor Epoxide	0.0007		
Toxaphene		0.002	
PCBS (Total)	0.0007	0.14	

Footnotes:

- [1] The discharger may meet the limit for hexavalent chromium as total chromium.
- [2] The discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.
- [3] Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four.
- [4] This limit was specified in the previous permit and is lower than the new limit specified in the revised Basin Plan. The Discharger has maintained compliance with this lower limit; therefore, this limit will continue to apply to the effluent, and not be replaced with the new limit from the Basin Plan.
- [5] Interim limit for mercury shall apply until December 1, 1998. This limit is based on the 99th percentile performance from January 1991 through August 1993, and the limit included in the previous permit. After this date, the limit for mercury shall be 0.084, and 24 ug/l for monthly and daily averages respectively, as shown in Table 1.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place at levels that cause nuisance or adversely affect beneficial uses:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:
  - a. Dissolved Oxygen: 5.0 mg/l, minimum  
  
The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
  - b. Dissolved Sulfide 0.1 mg/l, maximum
  - c. pH: The pH shall not be depressed below 6.5 or raised above 8.5, and the pH shall not vary from normal ambient pH by more than 0.5 pH units.

d. Un-ionized	0.025 mg/l as N, annual median
ammonia	0.16 mg/l as N, maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

1. All sludge generated by the discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 503. If the discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to the EPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR 503 are enforceable by EPA whether or not they are stated in an NPDES permit or other permit issued to the permittee.
2. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
3. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
4. The discharge of sewage sludge shall not cause waste material to be in a position where it is, or can be carried from the sludge treatment and storage site and deposited in the waters of the State.
5. The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
6. The discharger shall submit an annual report to the EPA and the Regional Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR 503, postmarked by February 19 of each year, for the period covering the previous calendar year.
7. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual self-monitoring report, the discharger shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.
8. Permanent on-site sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the discharger.

9. General Provision C of this Board's "Standard Provisions and Reporting Requirements " dated August, 1993 apply to sludge handling, disposal and reporting practices.
10. The Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

E. PROVISIONS

1. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 88-030. Order No. 88-030 is hereby rescinded.
2. Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Limitations shall also apply: (Mass Emission Limit in kg/day) = (Concentration Limit in mg/l) x (Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 3.78 (conversion factor).
3. The Discharger shall comply with all sections of this Order immediately upon adoption.
4. Compliance with Acute Toxicity Effluent Limitation:
  - a. Compliance with Effluent Limitation B.5.1 of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours in flow through bioassays. Each fish specie tested represents a single bioassay.
  - b. Two fish species shall be tested concurrently. These shall be the most sensitive two species determined from a single concurrent screening (all tests must be completed within ten days of initiating the first test) of the following three species: three-spine stickleback, rainbow trout and fathead minnow. The three species screening requirement can be met using either flow-through or static renewal bioassays. The Executive Officer may consider allowing compliance monitoring with only one (the most sensitive, if known) fish species if the following condition is met:
    - 1) The discharger can document that the acute toxicity limitation, specified above, has not been exceeded during the previous three years, or that acute toxicity has been observed in only one of two fish species.
  - c. All bioassays shall be performed according to protocols approved by the U.S. EPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.
  - d. If concurrent screenings have been conducted prior to this permit reissuance, the existing data may be submitted to the Board. If such information is found to meet the requirements of the Basin Plan, further screenings would not be required.
  - e. The discharger shall submit, by July 1, 1994 a proposed time schedule for compliance with the above described requirements. Compliance shall be established no later than January 31, 1995.

5. Chronic Toxicity Compliance Monitoring: The discharger shall commence monitoring by July, 1994 in accordance with the attached Self-Monitoring Program. The specie(s) to be used are to be determined based on the results of the Variability Phase testing, and shall be authorized by the Executive Officer. The discharger shall submit a general TIE work plan acceptable to the Executive Officer by July 1, 1994. If violation of the chronic toxicity effluent limitation occurs, the discharger shall implement the TIE work plan within 30 days of the date of violation.
6. TRE for Chronic Toxicity: If there is a violation of the chronic toxicity effluent limitation, the discharger shall conduct a chronic toxicity reduction evaluation (TRE), which shall initially involve a toxicity identification evaluation (TIE). The TIE shall be performed in accordance with a work plan acceptable to the Executive Officer. The TIE process shall be initiated within 30 days of the date of violation. The objective of the TIE shall be to identify the chemical or combination of chemicals that are causing the observed toxicity. Every effort using currently available TIE methodologies shall be employed by the discharger. As toxic constituents are identified or characterized, the discharger shall continue the TRE by determining the source(s) of the toxic constituent(s) and evaluating alternative strategies for reducing or eliminating the constituent(s) from the discharge. All reasonable steps shall be taken to reduce toxicity to the required level. The Board recognizes that identification of causes of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the discharger's actions in identifying and reducing sources of consistent toxicity.
7. Screening Phase for Chronic Toxicity: The discharger shall conduct screening phase compliance monitoring under either of the two conditions described in Attachment B of this Order. The discharger shall conduct screening phase compliance monitoring in accordance with a proposal submitted to and acceptable to the Executive Officer. The proposal shall contain, at a minimum, the elements specified in Attachment B of this Order. The purpose of the screening is to determine the most sensitive test species for subsequent routine compliance monitoring for chronic toxicity.
8. Pursuant to 40 CFR 122.44, 122.62, and 124.5, the definition of the NOEL contained in Attachment A of this Order may be modified prior to the expiration date based on guidance issued by the State Board.
9. Plant Capacity and Reliability: The discharger shall submit a report, acceptable to the Executive Officer, documenting adequate reliability, capacity and performance of the expanded treatment plant. This report shall include, at a minimum, a detailed description of the new treatment units, and how the 1987 capacity study relates to the capacity and reliability of these new units. In addition, this reports shall provide an estimate of wet weather flows that are anticipated to occur when dry weather flows have reached 16.5 MGD. An evaluation of the treatment plant's ability to address these wet weather flows (including the use of the flow equalization basin) must be included. Flows from the plant shall not exceed 13.5 MGD until this report has been approved by the Executive Officer.

10. Compliance with Mercury Effluent Limitation: The discharger shall implement an aggressive source identification and control program for mercury in the effort to reduce sources of mercury in their effluent to the maximum extent possible. Source identification and reduction is required in order to comply with the 0.084 ug/l monthly average effluent limitation for mercury which will be effective December 1, 1998. The discharger shall develop a plan for identification of mercury sources, and implementation of measures that may reduce mercury discharge to the plant. Any reduction steps that can be initiated immediately without further planning shall be discussed and implemented. This plan shall be submitted as part of the July 15 Pollution Prevention report in 1994.

Following submittal of the above described plan, status reports, acceptable to the Executive Officer, documenting efforts and evaluating the mercury reduction program's success shall be submitted semi-annually, on January 15 and July 15 of each year. These reports may be submitted concurrently with the reports prepared for the Pollution Prevention Program; however, a separate section of the report shall be devoted to reporting on the mercury reduction efforts. Duplicate copies shall be provided. These status reports shall, as necessary, identify specific source control actions, and establish time schedules for implementation of these actions.

11. Continued Implementation of Pollution Prevention Program: The discharger shall continue to implement their Pollution Prevention Program (previously known as the Waste Minimization Program) in order to reduce the pollutant loadings to the treatment plant, and subsequently, to the receiving waters for the discharge. To monitor the discharger's progress at minimization of increase in mass loadings of pollutants to the receiving waters as a result of the flow increase, semi-annual reports, satisfactory to the Executive Officer, shall be submitted. The reports shall discuss the progress and accomplishments of the Pollution Prevention Program, possible Program changes, and future Program developments. Reports shall be submitted by January 15th and July 15th of each year. One of these reports shall be a comprehensive document; the other shall be a short progress report.
12. Compliance Monitoring for Toxic Constituents: The discharger shall initiate a monitoring program using appropriate EPA methods and detection limits, to evaluate compliance status for all constituents listed in Effluent Limitation B.6 of this Order. Monitoring for all constituents, except for Tributyltin and TCDD's, shall be as specified in the attached Self-Monitoring Program. Monitoring for Tributyltin and TCDD's during 1994 shall be performed once during the wet weather months and once during the dry weather months. After 1994, monitoring for Tributyltin and TCDD's shall be as specified in the Self-Monitoring Program. The discharger shall ensure that, to the extent feasible utilizing the plant laboratory or a contract laboratory, the LOQ/PQL is less than the effluent limit for all constituents.
13. If the monitoring results document that either of the constituents evaluated as described in Provision E.12 are detected at levels higher than the effluent limitations, the discharger may petition for interim limits, and a time schedule for compliance with the effluent limitation.

This application for interim limits must be submitted by July 1, 1994, and must be based on the planning and implementation of an aggressive source control program and Pollution Prevention Program for the constituent(s). The primary goal in setting compliance schedules is to promote the completion of source control and waste minimization measures, including water reclamation.

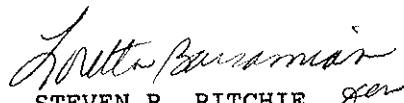
Justification for the interim limit and compliance time schedule shall include, at a minimum, the following:

- a. Results of a diligent effort to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream;
  - b. Documentation of source control efforts currently underway or completed, including compliance with the General Source Control/Pollution Prevention Program described in the Basin Plan;
  - c. A proposed schedule for additional source control measures; and,
  - d. A demonstration that the proposed schedule is as short as possible.
14. If monitoring results from sampling performed during the winter and/or spring of 1994 for the following constituents indicate that one or more chemicals are present at levels above the effluent limitation, then the discharger may apply for an interim limit as described in Provision 13 above: PAH's, hexachlorobenzene, pentachlorophenol, aldrin, DDT, dieldrin, endrin, heptachlor, heptachlorepoxyde, toxaphene, and PCB's. Any application for interim limits must be submitted by July 1, 1994.
  15. The discharger shall implement a storm water management plan as proposed in the Stormwater Pollution Prevention Plan for the Delta Diablo Sanitation District dated October, 1992, which is hereby incorporated as part of this Order. The Executive Officer shall be notified of any changes in this plan, or in practices at the plant for management of storm water runoff from the facility grounds.
  16. The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharges governed by this Order are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
  17. The discharger shall review, and update as necessary, its Operations and Maintenance Manual, annually, or within 120 days of completion of any significant facility or process changes. The Discharger shall submit to the Board, by April 15th of each year, a letter describing the results of the review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions.
  18. Annually, the discharger shall review and update as necessary, its contingency plan as required by Board Resolution No. 74-10. The Discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this order

pursuant to Section 13387 of the California Water code. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year.

19. The discharger shall implement and enforce its approved pretreatment program in accordance with Board Order 89-179 and its amendments thereafter. The discharger's responsibilities include, but are not limited to:
  - a. Enforcement of National Pretreatment Standards (e.g., prohibited discharges, Categorical Standards, local limits) in accordance with 40 CFR 403.5 and Section 307 (b) and (c) of the Clean Water Act.
  - b. Implementation of the pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR 403) and its approved pretreatment program.
  - c. Submission of annual and quarterly reports to EPA and the State as described in Board Order 89-179, and its amendments thereafter.
20. The discharger shall conduct monitoring in accordance with the attached Self-Monitoring Program, as adopted by the Board and as may be amended by the Executive Officer. The Self-Monitoring Program may be amended by the Board pursuant to EPA regulations 40 CFR 122.62, 122.63, and 124.5.
21. Pursuant to USEPA regulations 40 CFR 122.44, 122.62, and 124.5, this permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order.
22. The discharger shall comply with all applicable items of the attached Standard Provisions, Reporting Requirements and Definitions dated August 1993.
23. This order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to section 402 of the Clean Water Act or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator of the Environmental Protection Agency has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.
24. This order expires on November 17, 1998. The discharger must file a Report of Waste Discharge (Permit application) in accordance with Title 23, Chapter 3, Subchapter 9 of the California Code of Regulations not later than 180 days in advance of such expiration date, as application for issuance of new waste discharge requirements.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on November 19, 1993.

  
STEVEN R. RITCHIE  
Executive Officer

Attachments:

Figure 1 - Facility Map  
Attachment A - Definition of NOEL  
Attachment B - Chronic Toxicity Screening Phase Monitoring Requirements  
Attachment C - Definition of Terms for Chemical Constituents  
Self-Monitoring Program  
Standard Provisions and Reporting Requirements, December 1986  
Resolution No. 74-10

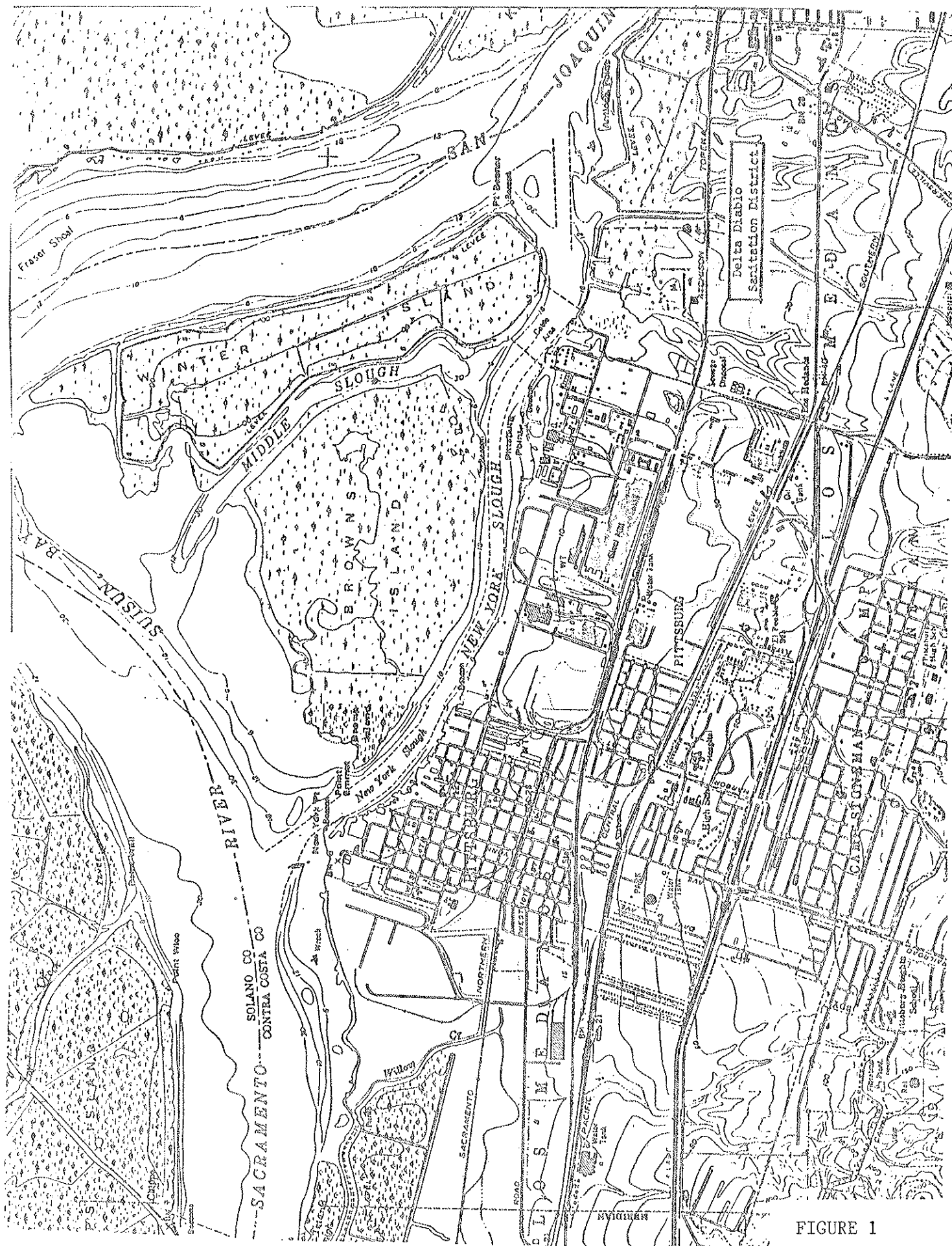
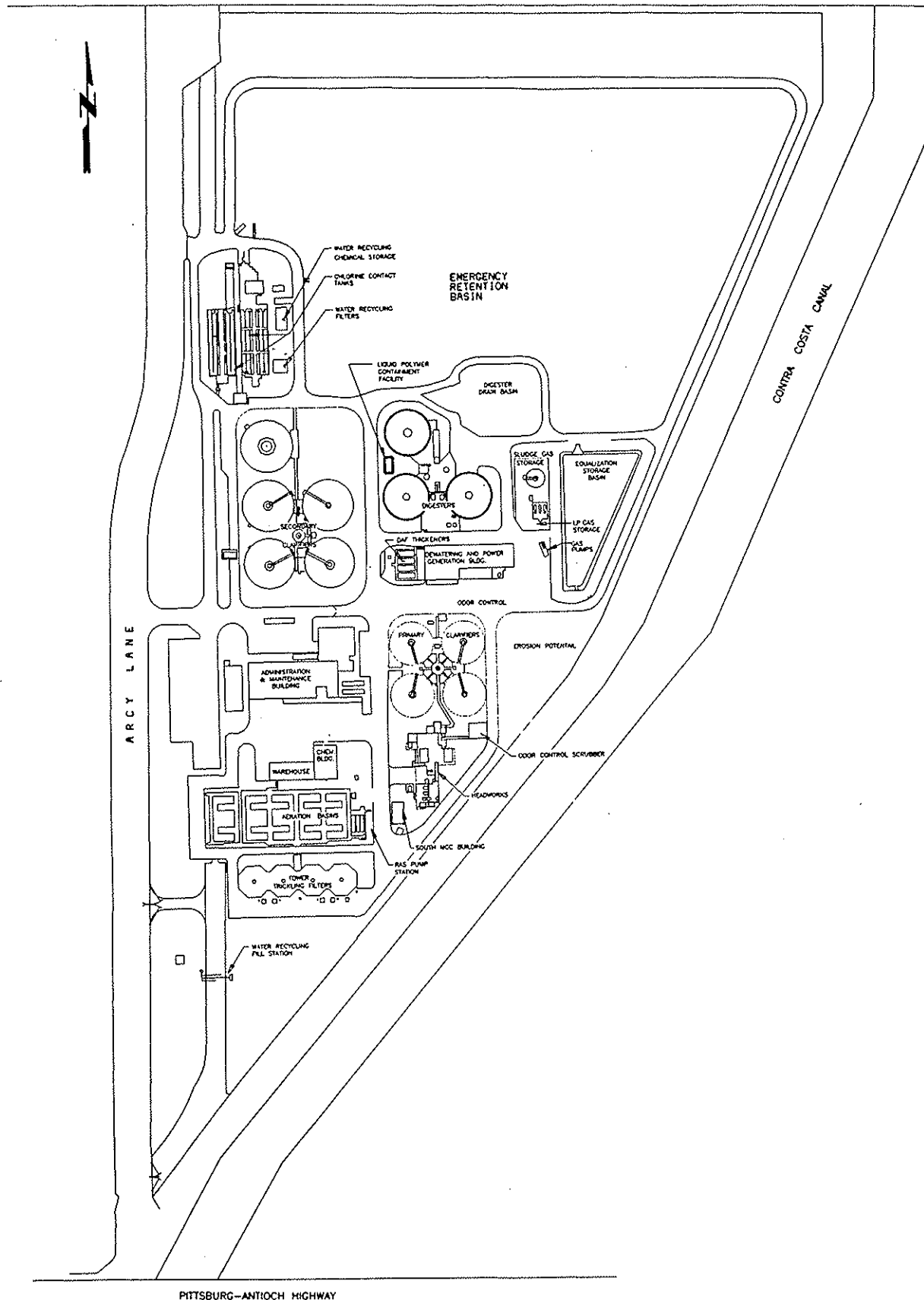


FIGURE 1

# DELTA DIABLO SANITATION DISTRICT

ATCHISON TOPEKA & SANTA FE RAILWAY



**SITE PLAN**  
NO SCALE

## ATTACHMENT A

### DEFINITION OF NO OBSERVED EFFECT LEVEL

No observed effect level (NOEL) for compliance determination is equal to  $IC_{25}$  or  $EC_{25}$ . If the  $IC_{25}$  or  $EC_{25}$  cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber.  $EC_{25}$  is the concentration of toxicant (in percent effluent) that causes a response in 25% of the test organisms.

Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an  $IC_{25}$  is the estimated concentration of toxicant that would cause a 25% reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as EPA's Bootstrap Procedure.

No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

ATTACHMENT B

SCREENING PHASE MONITORING  
REQUIREMENTS

- A. Screening phase compliance monitoring is required:
1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts; or
  2. Prior to Permit reissuance. Screening phase monitoring data shall be included in the NPDES Permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
- Use of test species specified in Table B-1 and B-2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer;
  - Two stages:
    - Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table B-3 (attached); and
    - Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
  - Appropriate controls; and
  - Concurrent reference toxicant tests.
- C. The discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

TABLE B-1  
CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS

SPECIES	EFFECT	TEST DURATION	REFERENCE
alga ( <u>Skeletonema costatum</u> ) ( <u>Thalassiosira pseudonana</u> )	growth rate	4 days	1
red alga ( <u>Champia parvula</u> )	number of cystocarps	7-9 days	5
giant kelp ( <u>Macrocystis pyrifera</u> )	percent germination; germ tube length	48 hours	3
abalone ( <u>Haliotis rufescens</u> )	abnormal shell development	48 hours	3
oyster ( <u>Crassostrea gigas</u> ) mussel ( <u>Mytilus edulis</u> )	abnormal shell development; percent survival	48 hours	2
Echinoderms (urchins - <u>Strongylocentrotus</u> <u>purpuratus</u> , <u>S. franciscanus</u> ); (sand dollar - <u>Dendraster</u> <u>excentricus</u> )	percent fertilization	1 hour	4
shrimp ( <u>Mysidopsis bahia</u> )	percent survival; growth; fecundity	7 days	5
silversides ( <u>Menidia beryllina</u> )	larval growth rate; percent survival	7 days	5

#### TOXICITY TEST REFERENCES

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. American Society for Testing Materials (ASTM). 1989. Standard Practice for conducting static acute toxicity tests with larvae of four species of bivalve molluscs. Procedure E 724-89. ASTM, Philadelphia, PA.
3. Anderson, B.B. J.W. Hunt, S.L. Turpen, A.R. Coulon, M. Martin, D.L. McKeown, and F.H. Palmer. 1990. Procedures manual for conducting toxicity tests developed by the marine bioassay project. California State Water Resources Control Board, Sacramento.
4. Dinnel, P.J., J. Link, and Q. Stober. 1987. Improved methodology for sea urchin sperm cell bioassay for marine waters. Archives of Environmental Contamination and Toxicology 16:23-32. and S.L. Anderson. September 1, 1989. Technical Memorandum. San Francisco Bay Regional Water Quality Control Board, Oakland, CA.
5. Weber, C.I., W.B. Horning, II, D.J. Klem, T.W. Neiheisel, P.A. Lewis, E.L. Robinson, J. Menkedick, and F. Kessler (eds.). 1988. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA-600/4-87/028. National Technical Information Service, Springfield, VA.

TABLE B-2  
CRITICAL LIFE STAGE TOXICITY TESTS FOR FRESH WATERS

SPECIES	EFFECT	TEST DURATION	REFERENCE
fathead minnow ( <u>Pimephales promelas</u> )	survival; growth rate	7 days	6
water flea ( <u>Ceriodaphnia dubia</u> )	survival; number of young	7 days	6
alga ( <u>Selenastrum capricornutum</u> )	cell division rate	4 days	6

TOXICITY TEST REFERENCE

6. Horning, W.B. and C.I. Weber (eds.). 1989. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Second edition. U.S. EPA Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.

TABLE B-3  
TOXICITY TEST REQUIREMENTS FOR STAGE ONE SCREENING PHASE

REQUIREMENTS	RECEIVING WATER CHARACTERISTICS		
	DISCHARGES TO COAST	DISCHARGES TO SAN FRANCISCO BAY†	
	Ocean	Marine	Freshwater
Taxonomic Diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type			
Freshwater†	0	1 or 2	3
Marine	4	3 or 4	0
Total number of tests	4	5	3

† The fresh water species may be substituted with marine species if:

- 1) the salinity of the effluent is above 5 parts per thousand (ppt) greater than 75% of the time, or
- 2) the ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

‡ Marine refers to receiving water salinities greater than 5 ppt at least 75% of the time during a normal water year. Fresh refers to receiving water with salinities less than 5 ppt at least 75% of the time during a normal water year.

## ATTACHMENT C

### DEFINITION OF TERMS<sup>[1]</sup> FOR CHEMICAL CONSTITUENTS

CHLORDANE shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

DDT shall mean the sum of the p,p' and o,p' isomers of DDT, DDD (TDE), and DDE.

ENDOSULFAN shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

ENDRIN shall mean the sum of endrin and endrin aldehyde.

HALOMEHTANES shall mean the sum of bromoform, bromomethane (methyl bromide), chloromethane (methyl chloride), chlorodibromomethane, and dichlorobromomethane.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity equivalence factors, as shown in the table below.

<u>Isomer Group</u>	<u>Toxicity Equivalence Factor</u>
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDF	0.001

[1] Source: Water Quality Control Plan for Enclosed Bays and Estuaries of California, State Water Resources Control Board, April 1991.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

DELTA DIABLO SANITATION DISTRICT  
ANTIOCH, CONTRA COSTA COUNTY, CALIFORNIA

NPDES PERMIT NO. CA0038547

ORDER NO. 93-142

CONSISTS OF

PART A, dated August 1993

AND

PART B

## PART B

SELF-MONITORING PROGRAM for DELTA DIABLO SANITATION DISTRICT  
NPDES Permit No. CA0038547

### I. DESCRIPTION OF SAMPLING STATIONS

NOTE: A sketch showing the locations of the stations described below shall accompany each monthly report, and the Annual report for each calendar year.

#### A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and prior to any phase of treatment.

#### B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001-D	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present, and where adequate contact with the disinfectant is assured. (May be the same as E-001-S).
E-001-S	At any point in the outfall at which all waste has been disinfected and dechlorinated.

#### C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in New York Slough directly above the center of the diffuser.
C-2-A C-2-B	At points in New York Slough located 100 feet upstream and downstream, respectively of the center of the diffuser.
C-R	At a point in New York Slough, located 1,000 feet upstream of the diffuser.

#### D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 through P-'n'	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 200 feet. (A sketch showing the locations of these stations will accompany each annual report).

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 through OV-'n'	Bypass or overflows from manholes, pump stations, collection systems or any sludge drying bed areas.

- NOTE:
1. A map and description of each known or observed overflow or bypass location shall accompany each monthly report. A summary of these occurrences and their locations shall be included with the Annual Report for each calendar year.
  2. Each occurrence of a bypass or overflow shall be reported to the Regional Board in accordance with the reporting requirements specified in Sections F.1 and F.2 of Self-Monitoring Program Part A.

F. SLUDGE

The Discharger shall continue to analyze sludge on a semiannual basis for priority pollutant metals and organics.

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table I and Table 1 Footnotes.

III. 1. CHRONIC TOXICITY MONITORING REQUIREMENT

- A. Test Species and Frequency: The discharger shall collect 24-hour composite samples of the treatment plant effluent at the compliance point station specified in the Self-Monitoring Program, for critical life stage toxicity testing in accordance with the attached table. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
- B. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in Order No. 93-142, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- C. Dilution Series: The discharger shall conduct tests at 50%, 25%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged.

2. CHRONIC TOXICITY REPORTING REQUIREMENTS

- A. Routine Reporting: Toxicity test results for the current reporting period shall include, at a minimum, for each test:
  1. sample date(s)
  2. test initiation date
  3. test species

4. end point values for each dilution (e.g. number of young, growth rate, percent survival)
  5. NOEC value(s) in percent effluent
  6. IC<sub>10</sub>, IC<sub>15</sub>, IC<sub>25</sub>, and IC<sub>50</sub> values (or EC<sub>10</sub>, EC<sub>15</sub> . . .etc.) in percent effluent
  7. TUC values (100/NOEC, 100/IC<sub>25</sub>, and 100/IC<sub>50</sub>)
  8. Mean percent mortality ( $\pm$ s.d.) after 96 hours in 100% effluent (if applicable)
  9. NOEC and LOEC values for reference toxicant test(s)
  10. IC<sub>50</sub> or EC<sub>50</sub> value(s) for reference toxicant test(s)
  11. Available water quality measurements for each test (e.g. pH, D.O., temperature, conductivity, hardness, salinity, ammonia)
- B. Compliance Summary: Each self-monitoring report shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section A, item numbers 1, 3, 5, 6(IC<sub>25</sub> or EC<sub>25</sub>), 7, and 8.
- C. Reporting Raw Data in Electronic Format: On a quarterly basis, by February 15, May 15, August 15, and December 15 of each year, the discharger shall report all chronic toxicity data for the previous calendar quarter in the format specified by the Statewide Chronic Toxicity Database Management System.

#### IV. MODIFICATIONS TO PART A

Add to Section F.4.e:

Include in each monthly report the following:

Annual tabulations of all data collected through the year up to the reported month to date for acute toxicity, monthly flow, and influent and effluent metals and cyanide (include influent data as gathered pursuant to the Pretreatment Program).

Receiving water data shall be summarized and reported to the Board annually. Annual reporting shall be consistent with the Regional Monitoring Program reporting format.

#### V. REPORTING REQUIREMENTS


- A. General Reporting Requirements are described in Section C of this Board's "Standard Provisions and Reporting Requirements", dated August, 1993.
- B. Self-Monitoring Reports for each calendar month shall be submitted monthly, by the fifteenth day of the following month. The required contents of these reports are described in Section F.4 of Part A.
- C. An Annual Report for each calendar year shall be submitted to the Board by January 30 of the following year. The required contents of the annual report are described in Section F.5 of Part A.

D. Any Overflow, bypass or significant non-compliance incident that may endanger health or the environment shall be reported according to Sections F.1 and F.2 of Part A.

E. Revisions to the Discharger's Contingency Plan, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year [Provision F.18].

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 93-142.
2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be authorized by the Executive Officer.
3. Is effective on the date shown below.

  
STEVEN R. RITCHIE  
Executive Officer

Effective Date November 19, 1993

Attachment:

- A. Table 1 with Table 1 Footnotes

### SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

[illegible]

TABLE 1 (continued)									
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS									
SAMPLING STATION	A	E-001-D			E-001-S		All C	All P	All OV (20)
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	Cont	G/O	O	G/O
Arsenic (9)			M						
Cadmium			M						
Chromium			M						
Copper			2W						
Lead			M						
Mercury			2/M						
Nickel			M						
Selenium (10)			M						
Silver			M						
Zinc			M						
Cyanide (11)			M						
Phenolic Compounds			M						
PAH's (12)			M						
Organic Priority Pollutants Table 1, Sect. B.6 of Permit) (13, 14, 15, 16, 17, 18, 19)			Y						
All Applicable Standard Observations							Q	2W	E

Legend and Footnotes for Table 1 are on the following pages.

TYPES OF SAMPLES

G = grab sample  
 C-24 = composite sample (24 hour)  
 Cont = continuous sampling  
 O = observation

TYPES OF STATIONS

A = treatment facility influent station  
 E = waste effluent station  
 L = basin and/or pond levees stations  
 C = receiving water station  
 P = treatment facilities perimeter station  
 OV = bypasses or overflows from manholes, pump stations, or collection systems

FREQUENCY OF SAMPLING

E = each occurrence	2/H = twice per hour	2H = every 2 hours
H = once each hour	2/W = 2 days per week	2D = every 2 days
D = once each day	5/W = 5 days per week	2W = every 2 weeks
W = once each week	2/M = 2 days per month	2M = every 2 months
M = once each month	2/Y = once in March & Sept.	Cont = continuous
Y = once each year	3/Y = once each in March, July, & Nov.	
	Q = quarterly, once each in March, June, Sept., & Dec.	

FOOTNOTES FOR TABLE 1:

1. Flow Rate - Influent and effluent flows shall be measured continuously. The following flow information shall be reported:  
 INFLUENT AND EFFLUENT: Daily: Flow Rate  
 Monthly: Average Daily Flow Rate (MGD)  
 Maximum Daily Flow Rate (MGD)  
 Minimum Daily Flow Rate (MGD)  
 Total Flow Volume (MG)
2. Oil and Grease - Each Oil and Grease sample shall consist of three grab samples taken at two hour intervals during the sampling day, with each being collected in a glass container. The grab samples shall be composited for analysis in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus five percent (5%). Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.
3. Chlorine Residual - Monitor dechlorinated effluent (E-001-S) continuously or, at a minimum, once every two hours. Report, on a daily basis, both maximum and minimum concentrations, for samples taken following dechlorination. Record and retain on file maximum and minimum concentrations for samples taken prior to dechlorination. If a violation is detected, the maximum and average concentrations and duration of each non-zero residual event shall be reported, along with the cause and corrective actions taken.

Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.

Chlorine Dosage - Report, on a daily basis, average concentration (mg/l), and total loading (kg/day).

4. When replicate analyses are made of a coliform sample, the reported result shall be the arithmetic mean of the replicate analysis values.
5. The discharger shall determine the two species to be used as specified in Provision E.4 of Order No. 93-142. The tests shall be parallel 96-hour flow through bioassays. The discharger shall perform the tests according to protocols approved by the USEPA, State Board, published by the American Society for Testing and Material (ASTM), or American Public Health Association. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia nitrogen, and temperature. These results shall be reported.
6. Critical Life Stage Toxicity Test shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Section III of this Self-Monitoring Program. Frequency to be determined by the Executive Officer. Variability phase testing results will be considered upon determination of frequency.
7. Daily minimum and maximum for pH shall be reported.
8. Receiving water analysis for sulfides should be run when dissolved oxygen is less than 5.0 mg/l.
9. Arsenic must be analyzed for only by the atomic absorption, gaseous hydride procedure (EPA Method No. 206.3/Standard Method No. 303E).
10. Selenium must be analyzed for only by the atomic absorption, gaseous hydride procedure (EPA Method No. 270.3/Standard Method No. 303.E).
11. The discharger may analyze for cyanide as Weak Acid Dissociable Cyanide using protocols specified in Standard Method No. 4500-CN-I, latest edition.
12. PAHs = Polynuclear Aromatic Hydrocarbons. PAH's shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

Polynuclear aromatic hydrocarbons shall be analyzed using EPA Method 610 or 625 of the July, 1982, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057. Note that the samples must be collected in amber glass containers. These samples shall be collected for the analysis of the regulated parameters. An automatic sampler which incorporates glass sample containers and keeps the samples

refrigerated at 4°C and protected from light during compositing may be used. The 24-hour composite samples may consist of eight grab samples collected at 3-hour intervals. The analytical laboratory shall remove flow-proportioned volumes from each sample vial or container for the analysis.

13. To determine tributyltin, the discharger shall use a USEPA approved method, or a method which is capable of speciating organotines, and is capable of low method detection limits on the order of 5 nanograms per liter (ng/l).
14. Organochlorine and other Organohalide Pesticides and Polychlorinated Biphenyl Toxic Pollutants shall be analyzed using EPA Method 608 as specified in 40 CFR 136.
15. Volatile Organic Toxic Pollutants shall be analyzed using EPA Method 624 as specified in 40 CFR 136 (Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057, July 1982).
16. Acid and Base/Neutral Extractable Organic Toxic Pollutants shall be analyzed using EPA Method 625 as specified in 40 CFR 136 (Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057, July 1982).
17. Chlorinated Dibenzodioxins and Chlorinated Dibenzofurans shall be analyzed using EPA Method 1613.
18. Selected Toxic Constituents - The initial monitoring for these constituents shall be as described in Provision E.12 of Order No. 93-142. The monitoring schedule thereafter shall be as follows: For those constituents that are present at concentrations at or above the effluent limit, monitoring shall be performed on a semi-annual basis, For those constituents that are detectable (or non-detectable) at levels below the effluent limit, monitoring shall be performed on an annual basis.
19. Monitoring for TCDD equivalents shall be performed once per permit reissuance.
20. Overflows -
  - (a) Flow: For all overflow events, a best estimate of the total overflow volume (gallons) shall be reported.
  - (b) BOD and Coliform: For any overflow event which involves discharge of wastewater to any surface water or waterway (including dry streams and drainage channels), grab samples shall be taken and analyzed for BOD, and both Total and Fecal Coliform.

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NOTES FOR TABLE 1:

1. Percent removal for BOD and Total Suspended Solids (effluent vs. influent) shall also be reported.
2. Grab Samples shall be collected coincident with samples collected for the analysis of regulated parameters. In addition, the grab samples must be

collected in glass containers. Polycarbonate containers may be used to store tributyltin samples.

3. If any effluent sample is in violation of limits, except those for metals, cyanide, and organics, sampling shall be increased for that parameter to at least daily or greater until compliance is demonstrated in two successive samples. receiving water violations shall be reported in the monthly report; increased receiving water monitoring may be required.
4. All flow other than to the outfall (e.g., sludge) shall be reported monthly. Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of disposal.
5. Detection Limits - Laboratory analyses shall be conducted in such a manner as to provide analytical information sufficient to determine compliance with the applicable effluent limitations (Effluent Limitations B.6 of Permit). If the necessary analytical performance is unable to be achieved, the Discharger may request, with supporting documentation, approval from the Executive Officer to allow the use of the best achievable analytical performance. All constituents shall be reported in mg/l or ug/l, and kg/day. If a detection limit using the best achievable analytical performance is higher than effluent limit, and the constituent is not detected, then the discharge will be considered to be in compliance with the effluent limitation.
6. During any time when bypassing occurs from any treatment unit(s) in the treatment facilities, the monitoring program for the effluent discharged shall include the following in addition to the above schedule for sampling, measurement and analyses:
  - a. Composite sample on an hourly basis for the duration of the bypass event for BOD, and Total Suspended Solids analyses. Grab samples at least daily for Coliform (Total and Fecal), Settleable Matter and Oil and Grease analyses.
  - b. Continuous monitoring or hourly grab samples for chlorine residual measurement, and continuous monitoring of bypassed flow.
  - c. Daily receiving water sampling and observations shall be performed until it is demonstrated that no adverse impact on the receiving water is detected.